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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/661,943 | 09/12/2003 | Neil Birkett | 13587.41 | 8373 |
| 21323 | 7590 | 11/01/2006 | EXAMINER | |
| TESTA, HURWITZ & THIBEAULT, LLP HIGH STREET TOWER 125 HIGH STREET BOSTON, MA 02110 | | | | LU, JIA |
| | | ART UNIT | | PAPER NUMBER |
| | | 2611 | | |

DATE MAILED: 11/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-----------------------|------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/661,943 | BIRKETT ET AL. | |
| | Examiner Jia W. Lu | Art Unit 2611 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 12 September 2003.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-18 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) 7-9 and 18 is/are allowed.
 6) Claim(s) 1,10 and 15 is/are rejected.
 7) Claim(s) 2-6,11-14,16 and 17 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 12 September 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claims 1 rejected under 35 U.S.C. 103(a) as being unpatentable over US application publication 2002/0168034, in view of US patent 5,469,115, further in view of US patent 6,683,921.
 - a. Regarding claim 1, '034 shows a wireless receiver (paragraph 0004) and a method of detecting the presence of a data packet comprising steps of down-converting received RF signal (paragraph 0050) into I and Q baseband signals (paragraph 0039), and detecting a peak (paragraph 0080), and if peak is above a predefined threshold, indicating presence of

data, else performing peak detection on a subsequently received RF signal 9 (figure 12). While '034 does not describe removing DC offsets, such a feature is shown in '115 (figure 3, element 66) after signal down-conversion (element 60) and signal measurements/detection (element 48), and it would have been obvious to one ordinarily skilled in the art to incorporate this unit removing DC offsets between after down-conversion and before signal measurements/detection in '034 in order to remove noise that may corrupt signal measurements and detection. Further, while '034 does not show the modulation of I and Q signals and performing amplitude normalization on I and Q baseband prior to signal detection, such a technique would be obvious in view of '320 (paragraph 278). It would have been obvious to one ordinarily skilled in the art to incorporate amplitude normalization in '034 in order to make signal detection less susceptible to errors associated with power or amplitude fluctuations.

- b. Claim 15 reads on the limitations of claim 1 above, further, the mapping and comparing functions prior to signal detection serves to perform amplitude normalization in the incoming signal, and therefore also reads on the limitations of 1 above.

2. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 6,683,921. '921 describes the remapping of a received PSK signal to another PSK signal prior to signal detection (figure 9, elements 7 and 2). While

'921 does not describe the remapping of a QAM to a PSK, it would have been obvious to one ordinarily skilled in the art to describe QAM as incoming signal because PSK is a subset of QAM.

Allowable Subject Matter

3. Claims 7-9, 18 are allowed.
4. Claims 2-6, 11-14, 16-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

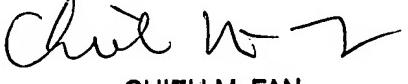
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jia W. Lu whose telephone number is 571-272-6042.

The examiner can normally be reached on Mon- Fri, 10:30AM-6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on (571)272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jia Lu
Examiner



CHIEH M. FAN
SUPERVISORY PATENT EXAMINER